FIG. 1

PRIOR ART

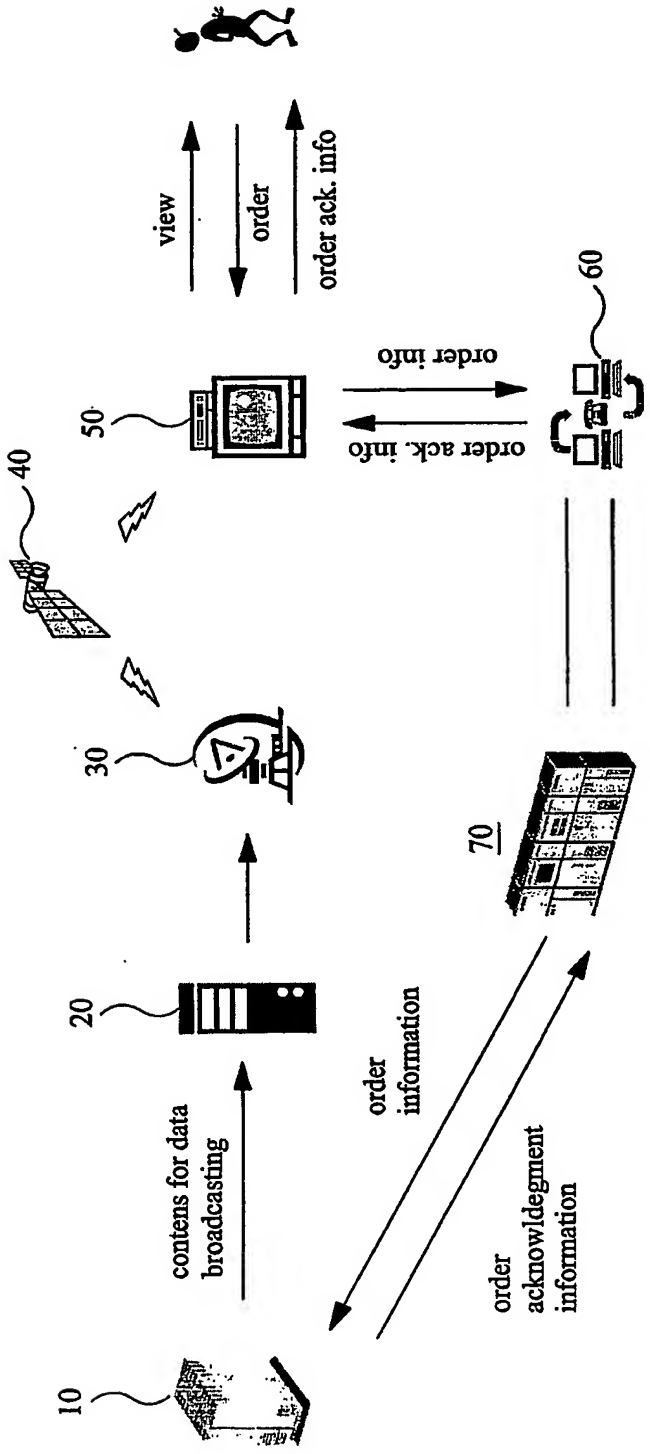


FIG. 2

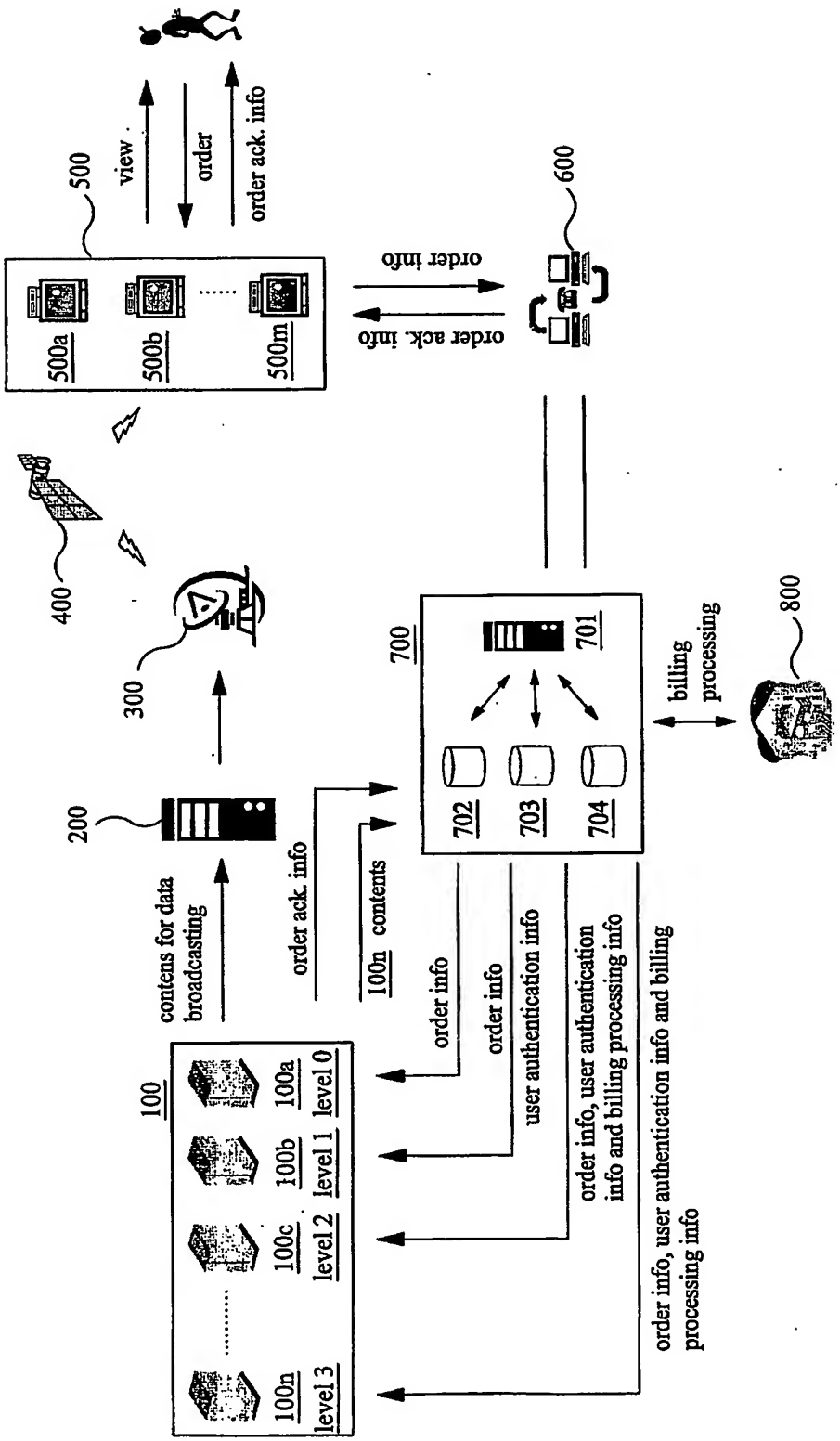

500
view
order
order ack. info
500a
500b
500m
600
order info
order ack. info
400
300
700
701
billing processing
800
200
702
703
704
contens for data broadcasting
order ack. info
100n contents
order info
order info
user authentication info
order info, user authentication info and billing processing info
order info, user authentication info and billing processing info
100
100a
100b
100c
100n
level 0
level 1
level 2
level 3

FIG. 3

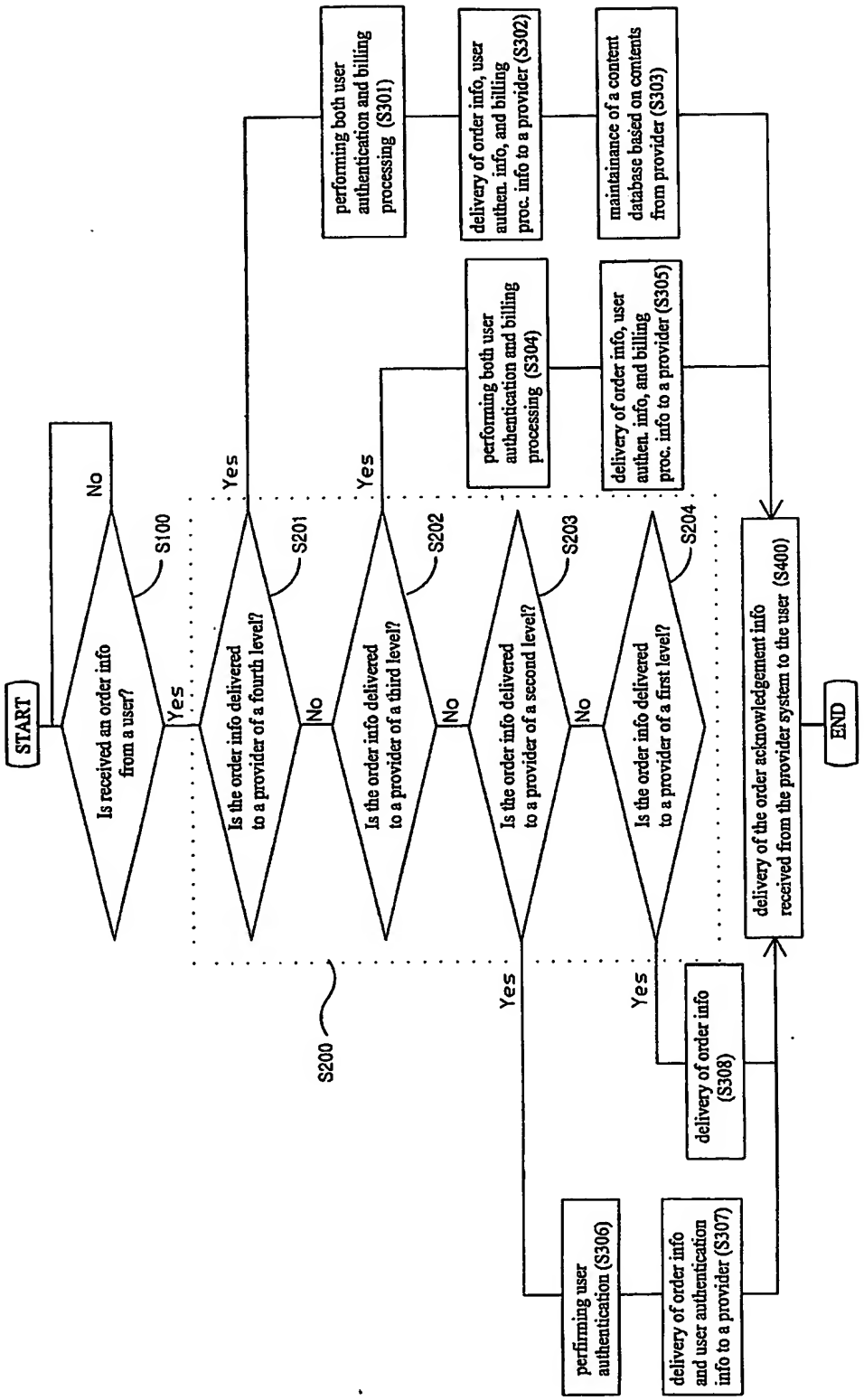

START
Is received an order info from a user?
No
Yes
S100
Is the order info delivered to a provider of a fourth level?
S201
No
Yes
performing both user authentication and billing processing (S301)
delivery of order info, user authen. info, and billing proc. info to a provider (S302)
maintainance of a content database based on contents from provider (S303)
Is the order info delivered to a provider of a third level?
S202
No
Yes
performing both user authentication and billing processing (S304)
delivery of order info, user authen. info, and billing proc. info to a provider (S305)
Is the order info delivered to a provider of a second level?
S203
No
Yes
perfirming user authentication (S306)
delivery of order info and user authentication info to a provider (S307)
Is the order info delivered to a provider of a first level?
S204
No
Yes
delivery of order info (S308)
S200
delivery of the order acknowledgement info received from the provider system to the user (S400)
END

FIG. 4

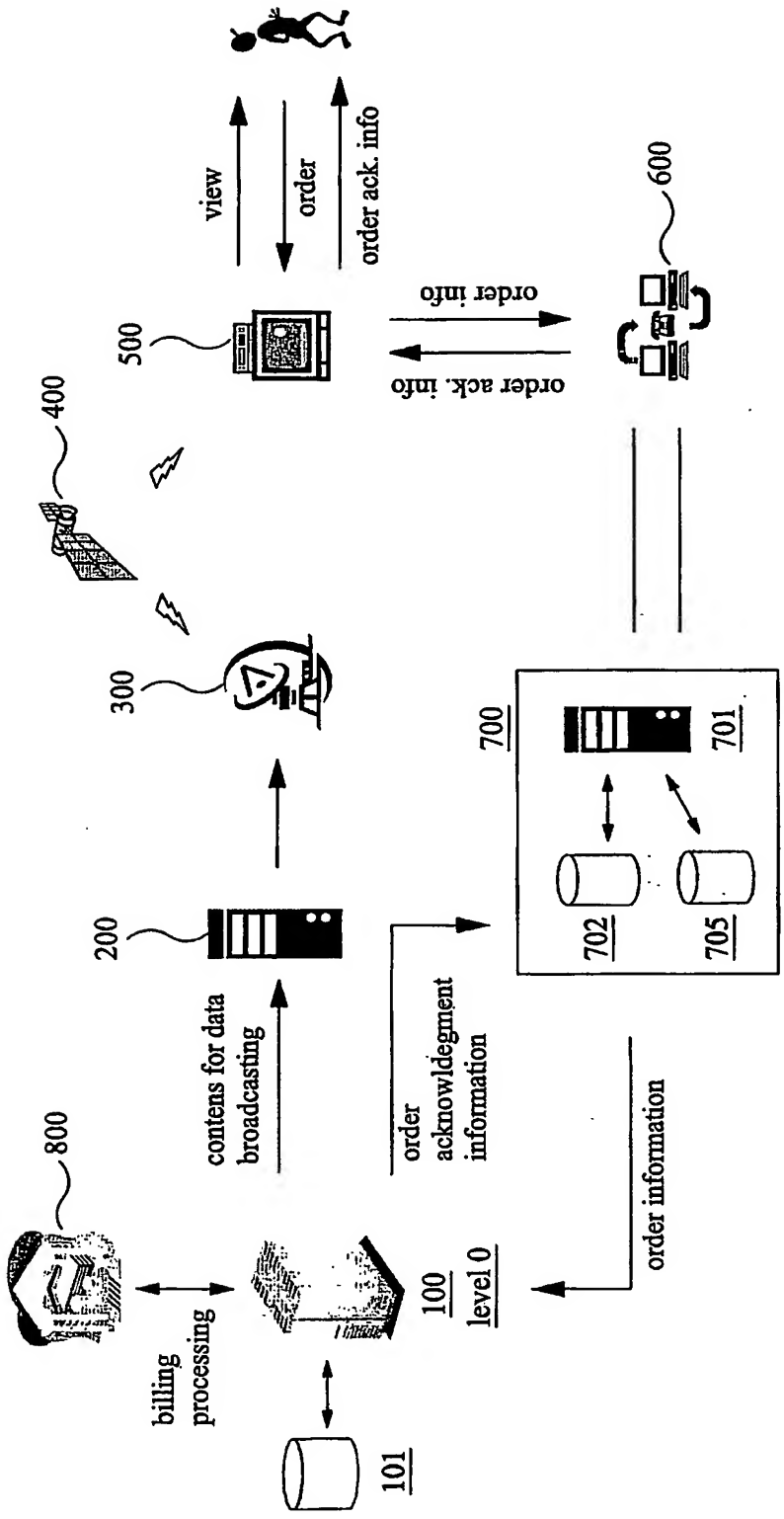

view
order
order ack. info
600
order info
order ack. info
500
400
300
700
701
702
705
200
contens for data broadcasting
order acknowldegment information
order information
800
billing processing
100
level 0
101

FIG. 5

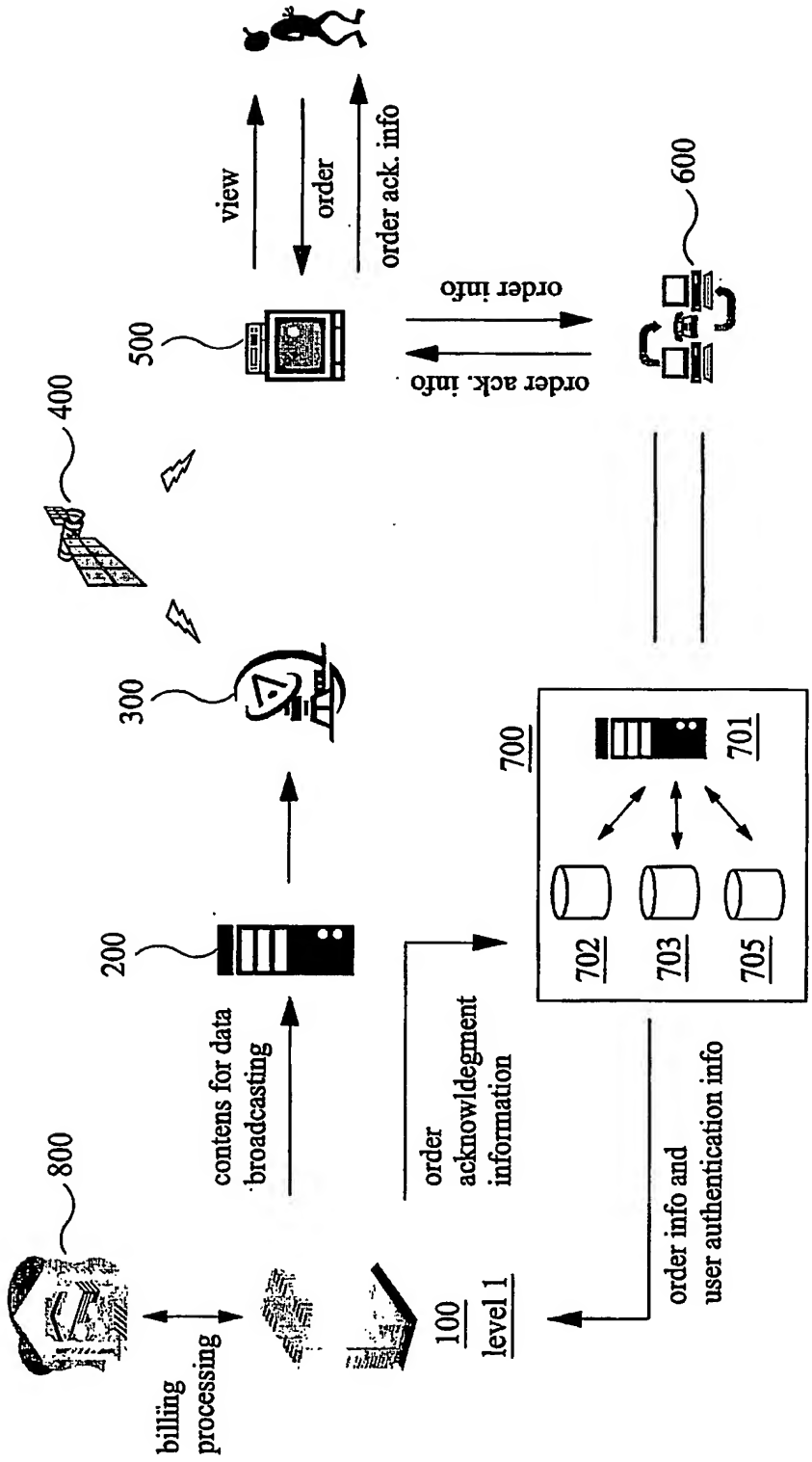

view
order
order ack. info
order info
order ack. info
600
500
400
300
200
700
701
702
703
705
800
100
level 1
billing processing
contens for data broadcasting
order acknowldegment information
order info and user authentication info

FIG. 6

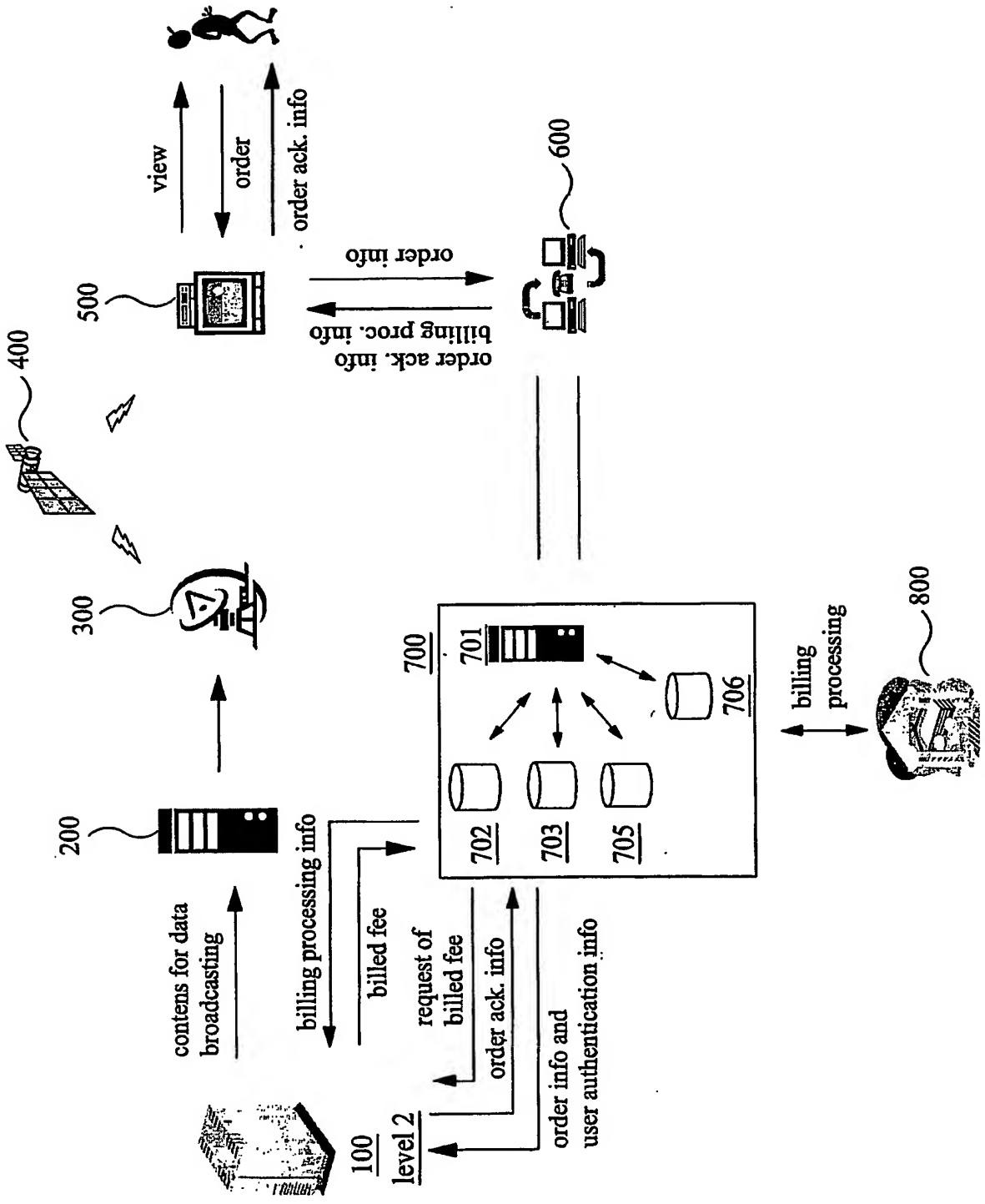

view
order
order ack. info
600
order info
billing proc. info
order ack. info
500
400
300
700
701
706
billing processing
800
200
702
703
705
billing processing info
billed fee
request of billed fee
order ack. info
order info and user authentication info
contens for data broadcasting
100
level 2

FIG. 7

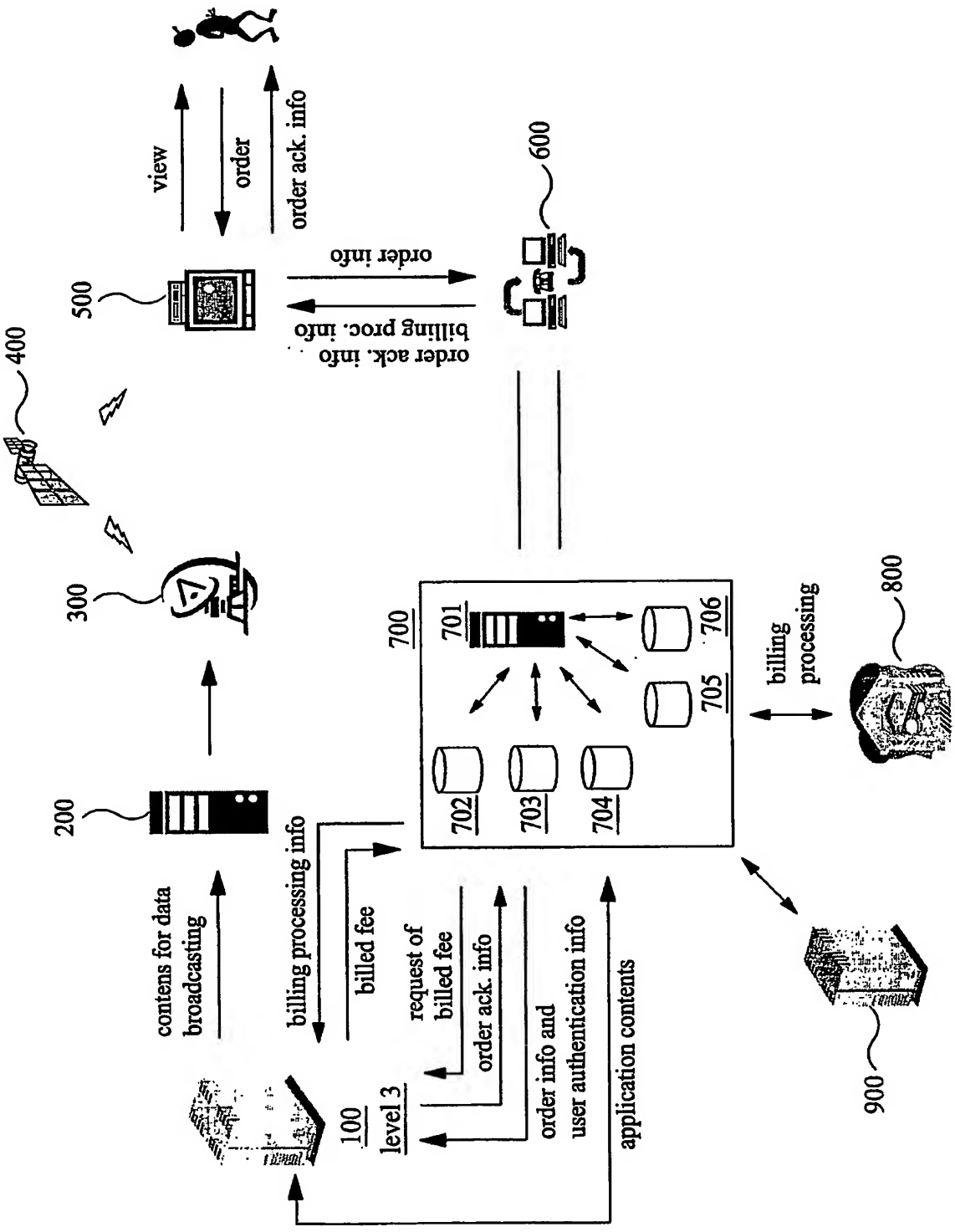

view
order
order ack. info
order info
billing proc. info
order ack. info
600
500
400
300
200
700
701
702
703
704
705
706
billing processing
800
contens for data broadcasting
billing processing info
billed fee
request of billed fee
order ack. info
order info and user authentication info
application contents
100
level 3
900

FIG. 8

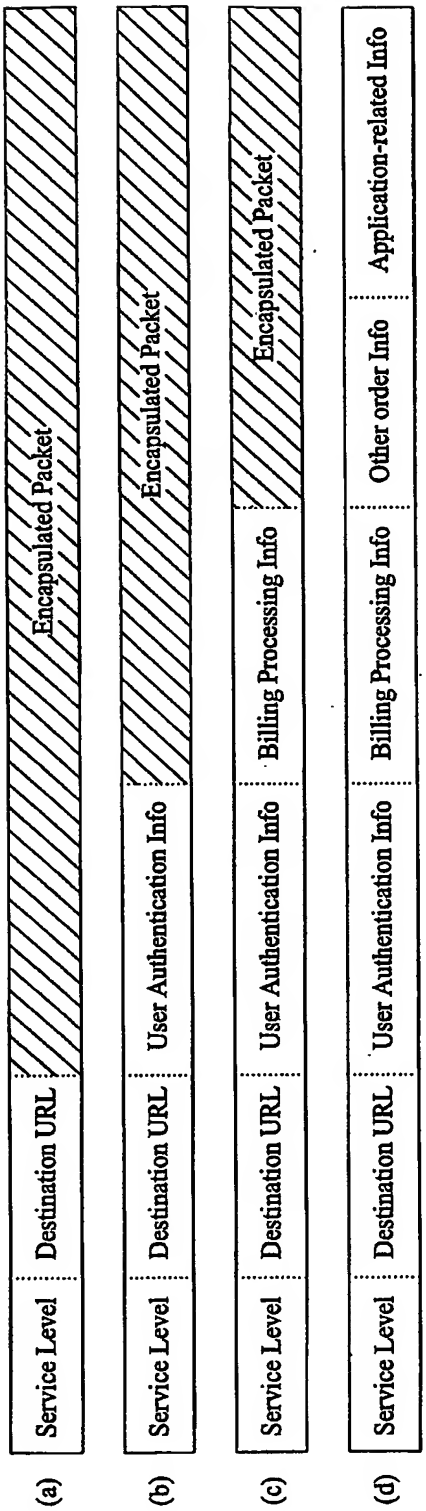
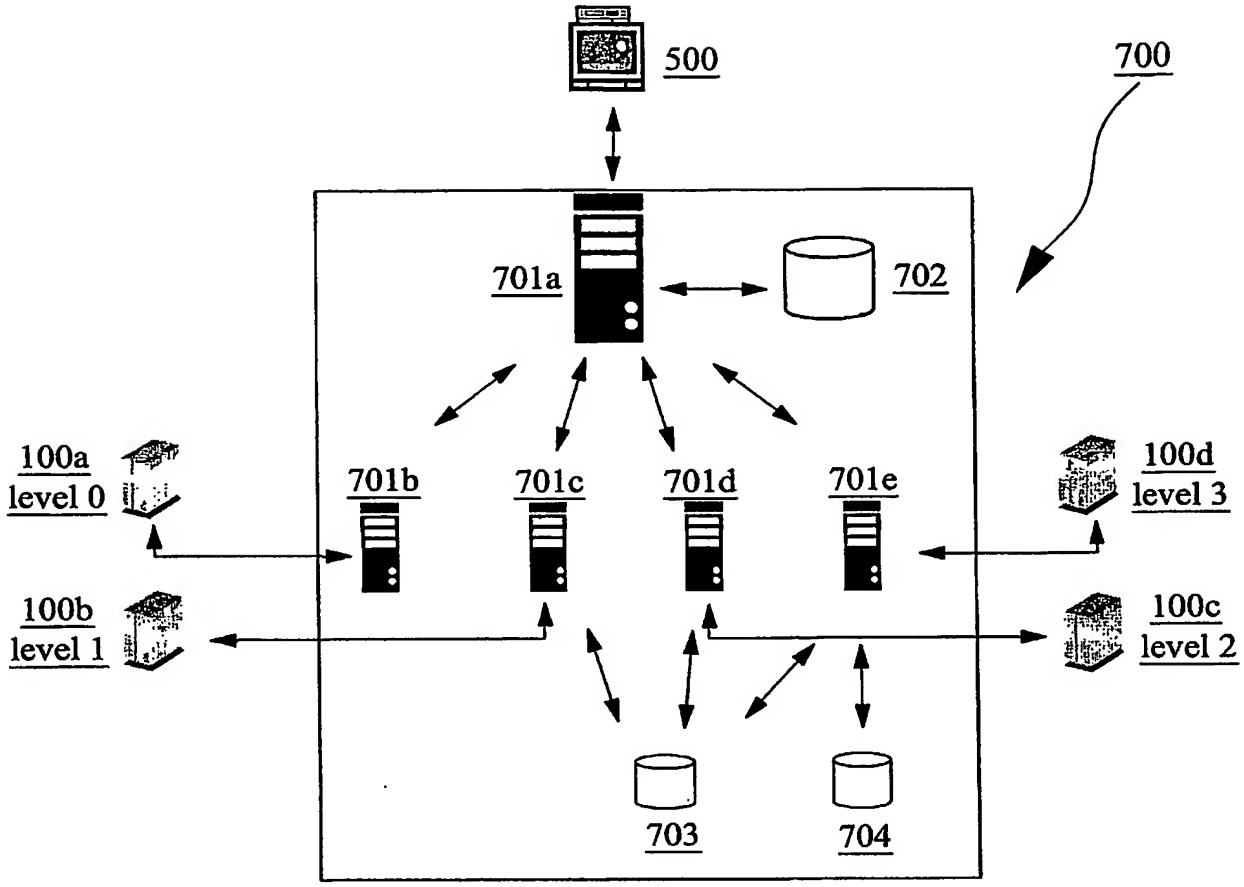

(a)
Service Level
Destination URL
Encapsulated Packet
(b)
Service Level
Destination URL
User Authentication Info
Encapsulated Packet
(c)
Service Level
Destination URL
User Authentication Info
Billing Processing Info
Encapsulated Packet
(d)
Service Level
Destination URL
User Authentication Info
Billing Processing Info
Other order Info
Application-related Info

FIG. 9


500
700
701a
702
100a
level 0
701b
701c
701d
701e
100d
level 3
100b
level 1
100c
level 2
703
704